The present invention relates to a complex oxide having a BET specific surface area of about 10 to about 200 m<sup>2</sup>/g, comprising zinc oxide as a primary component, containing crystalline structures of both zinc oxide and silica, and exhibiting diffraction peaks in lattice planes (100), (002), and (101), which are X-ray crystallographically specific to diffraction peaks of crystalline zinc oxide, and in a lattice plane (101) which is X-ray crystallographically specific to the diffraction peak of crystalline silica.